Duke Energy® Gas Transmission
Algonquin Gas Transmission Company

Islander East Pipeline Company

ISLANDER EAST PIPELINE PROJECT

U.S. Army Corp of Engineers
New England & New York Districts

Responses to Comments to the Joint Permit Application Package

August 2002

National Marine Fisheries Service

Comments received from Patricia A. Kurkul, Regional Administrator, Northeast Region, by letter dated July 3, 2002.

Response to Comment 3-1:

Potential impacts on the fishery resource of Long Island Sound are discussed in detail in responses 5-2, 5-3, and 5-4. Islander East addressed similar comments regarding alternatives in responses 1-1 and 1-2.

Response to Comment 3-2:

Islander East is proposing to construct the pipeline using the HDD method for a distance of approximately 4,000 feet MP 10.1 to MP 10.9. Islander East designed the proposed HDD specifically to avoid impacts on the productive, leased shellfish beds in the Town of Branford waters. Islander East characterized the unleased portion of the seafloor in the vicinity of Branford as unproductive because this portion of the seafloor is not leased shellfish beds. Furthermore, the seafloor crossed beyond the leased shellfish beds is composed of soft sediment substrates (mainly silty), which are less productive than the rocky subtidal, eelgrass, saltmarsh, gravel and cobble sediments.

Response to Comment 3-3:

Based on current analysis of geophysical data in the upper surface of the seafloor, Islander East does not anticipate blasting will be required on the marine portion of the pipeline. Islander East will install the offshore pipeline using a combination of HDD, dredging, and post-lay plow construction techniques. The HDD construction technique will avoid direct disturbance of the seafloor to approximate milepost 10.9. Dredging will occur from the HDD exit point to a depth of 20 feet. The dredge will create a temporary trench, which will be backfilled upon lowering of the pipe. In waters with a depth greater than 20 feet, Islander East will use the plow method of construction, which will also be backfilled upon lowering of the pipe. As discussed in response 3-5, Islander East's sediment dispersion modeling results conclude that the aforementioned construction methods will cause localized and temporary sediment disturbance to the sea floor, which in turn minimizes the impacts on fish, shellfish, and lobster.

It should be noted that the temporary sediment suspension is comparative to the result of activities such as commercial shellfishing. Construction will be comparatively short-term, in contrast to the seasonal or on-going bottom disturbance associated with commercial shellfishing.

Response to Comment 3-4:

In its January 30, 2002 reply to the FERC, Islander East indicated that an estimated 60 percent of the drilling fluid could be contained during prereaming and the swab passes. Subsequent to the January 30 response, Islander East reevaluated its containment procedures and improved its methods of containment during the prereaming and swab pass stages of the drill. With the proposed changes, the resulting estimated discharge quantities are as follows:

PILOT HOLE
Drilling Fluid 455 barrels
Bentonite 3 cubic yards
Spoil 2 cubic yards

PREREAMING
Drilling Fluid 0 barrels
Bentonite 0 cubic yards
Spoil 0 cubic yards

SWAB PASS
Drilling Fluid 0 barrels
Bentonite 0 cubic yards
Spoil 0 cubic yards

PULLBACK
Drilling Fluid 5,171 barrels
Bentonite 35 cubic yards
Spoil 22 cubic yards

TOTAL
Drilling Fluid 5,626 barrels
Bentonite 38 cubic yards
Spoil 24 cubic yards

It is anticipated that the drilling fluid released during pull back will be largely contained within the excavated transition hole at the exit point. Therefore, the total quantities shown above represent an estimate of the maximum amount that could be released to the seafloor.

Response to Comment 3-5:

Islander East conducted studies over the past year to assess the dispersion of sediments resulting from the proposed offshore construction methods. These studies were based on tidal data collected from moored arrays and sediment data collected along the proposed pipeline route in Long Island Sound. Based on these data, Islander East's sediment dispersion experts, Dr. Frank Bohlen and Applied Science Associates, Inc., produced two reports. These reports were provided to the COE on April 25, 2002 and August 7, 2002, respectively.

Results of these reports indicate that sediment introduced into the water column during the HDD and mechanical dredging operations will fall out of suspension and settle in the vicinity of the HDD exit point and trenchline, respectively. Erosion from the temporary spoil mounds will be limited to the immediate area of the activity due to the cohesiveness of the sediments. Similarly, the modeling results indicate that sedimentation from the subsea plow will be limited to the immediate vicinity of the trench.

Response to Comment 3-6:

Islander East conducted site-specific modeling at the location where the pipeline will be installed. The modeling was conducted during the proposed winter construction period

and incorporates data from winter storms. Consequently, Islander East's modeling reflects storm events.

Response to Comment 3-7:

Islander East intends to backfill the trench to match adjoining areas of undisturbed seafloor to the extent practicable. Based on the results of investigations of suspension and movement of dredged sediment from the Connecticut nearshore, the majority of material will remain on the spoil piles because the erosive forces are low and the material is cohesive.

Response to Comment 3-8:

Islander East proposes to install a 24-inch-diameter pipeline across Long Island Sound. It is anticipated that burying and then backfilling the pipeline with the subsea plow will occur fairly rapidly at an estimated movement rate of between 1 to 2 miles per day. Therefore, the creation of the trench only has the potential to affect lobster and crab movement for a short period of time.

Response to Comment 3-9:

The calculated value of 172 square feet for an individual anchor footprint is based on using a 12.5-ton standard stockless anchor, which "is able to reach a working holding capacity in only about three fluke lengths of drag". (Centaur Associates, Inc, *et al. Mitigation of Sea Floor Conflicts Between Oil and Gas Pipelines and Commercial Trawl Fisheries on the California Outer Continental Shelf.* 1984.)

A stockless anchor is generally considered to be less efficient than other types of anchors; when the same pulling force is applied to a more efficient anchor type, it would not be "taxed" to its full holding power to resist that pulling force. For this reason, Islander East believes that its calculation of the total area that will be impacted by anchors is conservative.

Response to Comment 3-10:

Based on the report entitled *An Initial Evaluation of Marine Sediment Dispersion Associated with the Islander East Natural Gas Pipeline* (Bohlen, *et al.*, 2002), Islander East expects that a significant fraction of the sediment load displaced by anchors will fall from the anchor as a coherent mass settling on or near the anchor hole.

Offshore installation activities typically utilize an anchor recovery method referred to as "pendant lines", where the anchor is picked up by a pendant cable that is attached to the crown of the anchor. Based on field observations and available literature, this method removes the anchor from beneath the seafloor in the opposite direction from which it embedded itself. The result is that almost all of the seabottom material that had been on top of the anchor remains in the embedment hole. Although the seabottom material is disturbed, it will typically only form a depression between two to three feet deep.

Response to Comment 3-11:

Refer to responses 1-1 and 1-2 for a discussion of alternatives.

Islander East's route and system alternative analyses (taking environmental, feasibility, economics, and safety into consideration), and the FERC's Draft EIS, have concluded

that the proposed route is the most environmentally preferable route compared to the alternatives.

Response to Comment 3-12:

Islander East has proposed mitigation to minimize offshore environmental impacts. Islander East will use the HDD construction technique in the nearshore waters of Connecticut and New York to minimize impacts. Islander East has also committed to using the subsea plow method to install the pipeline in waters deeper than 20 feet to minimize dispersion of sediments. Islander East has coordinated activities with commercial fishermen that include preconstruction harvesting of shellfish and post-construction reseeding of shellfish, as well as coordinating shellfishing activities during offshore construction.

Response to Comment 3-13:

Islander East proposes to install its pipeline in Long Island Sound within the window identified by the National Marine Fisheries Service (NMFS) to minimize or avoid impacts on spawning and early life stages of aquatic species.

Response to Comment 3-14:

Refer to response 3-13.